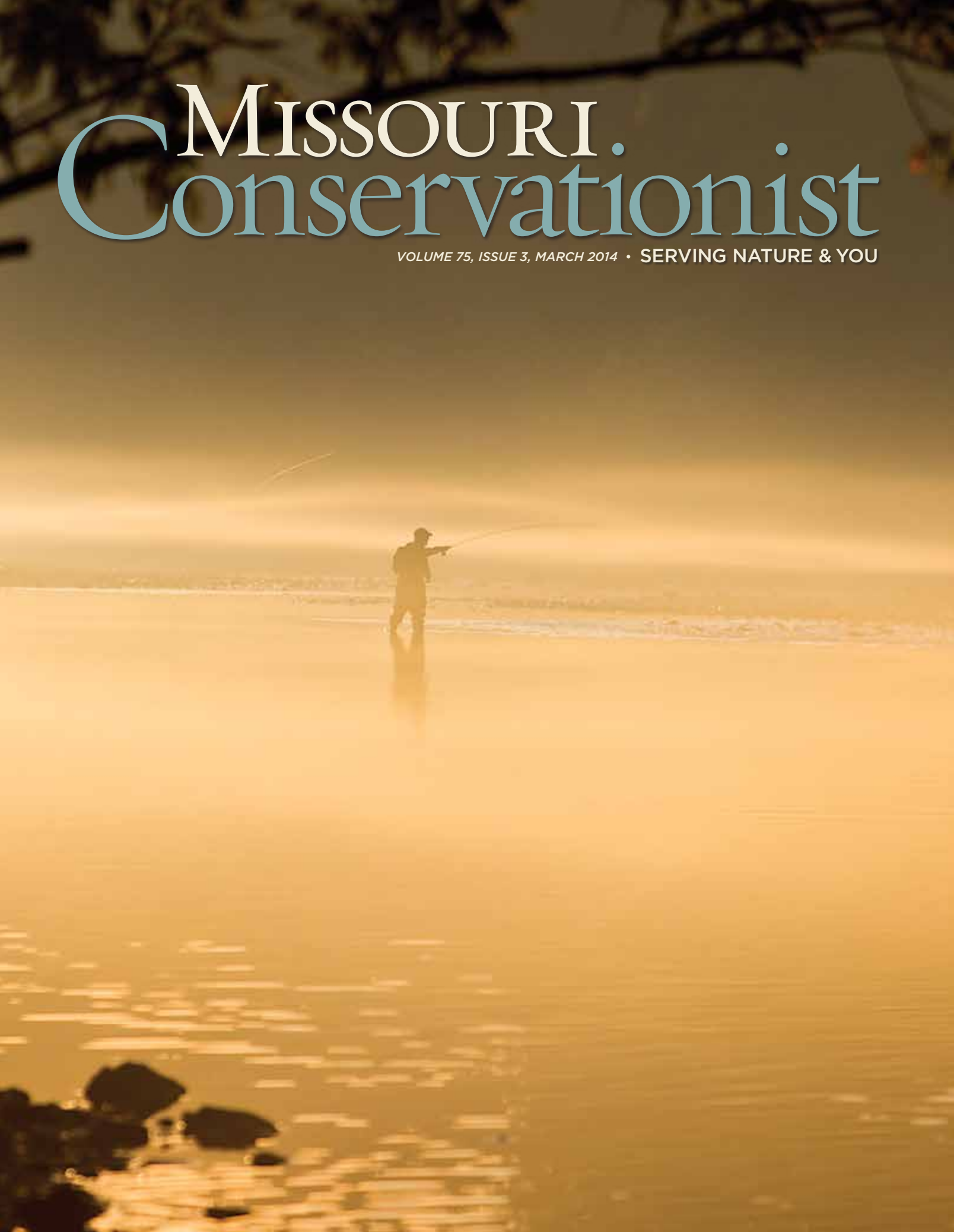


MISSOURI. Conservationist

VOLUME 75, ISSUE 3, MARCH 2014 • SERVING NATURE & YOU



Missouri — Committed to Conservation

Whether feeding birds or watching wildlife, hunting, canoeing and boating, target shooting, fishing, or spending time at a nature center, Missourians are tied to the outdoors. The many opportunities we have

to participate in these and other activities within Missouri should not be taken for granted. The vision, passion, and commitment of Missouri's citizens for the forest, fish, and wildlife resources of Missouri have shaped the programs and experiences enjoyed today. The following information provides insight into Missouri's nationally recognized conservation system.

Missouri's citizens have taken unique and proactive steps to support and enhance conservation efforts.

- Created a four-member citizen volunteer Conservation Commission through a 1936 citizen-led initiative petition Constitutional Amendment
- Established a Constitutional mandate to guide activities as the Department works to carry out the mission:
 - » To protect and manage the forest, fish, and wildlife resources of the state; to facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources
- Passed $\frac{1}{8}$ of 1 cent sales tax through the 1976 "Design for Conservation"
 - » For every \$8,000 spent on taxable items, \$10 is dedicated to ensure healthy forests and abundant fish and wildlife.

Citizens have created a Conservation Department that "pays its way."

- The Department continues to — and must — live within its financial means because no money is received from state government's general revenue fund.
- The Department operates on a budget that is only 0.7 percent of Missouri's total state budget.
 - » From less than 1 percent of the state budget, Conservation produces a \$12.4 billion economic impact annually.
- The Conservation Sales Tax currently generates approximately \$103 million each year — funds that are earmarked and spent to make fish and wildlife abundant and forests sustainable. As a result:
 - » Missourians value wildlife recreation, hunting, and fishing experiences.
 - » There is a \$4.4 billion impact from fish and wildlife-related recreation expenditures annually.

» There is an additional \$8 billion annual impact from forest-related economics.

- Forest, fish, and wildlife are big business in Missouri.
 - » These resources support approximately 89,500 Missouri jobs.
- Approximately 25 percent of Missouri's tourism dollars are from forest, fish, wildlife, and outdoor pursuits.

Citizens have created a Conservation Department that is the envy of the nation. That is because it:

- Serves every county and maintains the necessary infrastructure to support services
- Serves both rural and urban citizens
- Provides educational programs and services for teachers throughout the state, hunter education, landowner technical assistance, intense training and equipment for rural volunteer firefighters, and much more
- Ensures fish and wildlife are abundant, forests sustainable, and our waters healthy

Missouri's economy — not to mention quality of life — is built on our diverse, high-quality, and abundant natural resources like productive water, healthy forests, abundant fish and wildlife, and rich soils.

Surveys indicate 9 out of 10 Missourians are interested in Missouri's forests, fish, and wildlife, 85 percent say they trust the Department, and two-thirds say the Department is doing a good or excellent job.

Missouri is home to 1.1 million anglers; more than 500,000 hunters; and 1.7 million wildlife watchers.

Missouri's citizen-created Conservation Department is something to feel good about and something to value.

The future of our state's conservation success story is dependent on continued citizen support — the cornerstone of Missouri's conservation experience.



Robert L. Ziehmer, director

FEATURES

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Our state has all the fish, locations, and excitement you need for your angling adventure.
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Cover: A trout angler on Lake Taneycomo, by David Stonner. Learn how to start your trout fishing adventure, beginning on Page 10.

📷 70–200mm lens • f/3.5 • 1/8000 sec • ISO 400

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WHAT IS IT?

Our photographers have been busy exploring the intricacies of the Missouri outdoors. See if you can guess this month's natural wonder. The answer is revealed on Page 8.



A PECK-TACULAR TIME

This past December 5-8, I was invited to tag along on a managed deer hunt at Peck Ranch CA. The experience of sleeping on the ground, in a tent, with 2 inches of sleet and 10 inches of snow, and a wind chill of below zero on Friday night was a true adventure. I want to commend the staff at Peck Ranch. They were very professional, thorough, friendly, and, most of all, caring. I was very pleased to see how some people take their jobs above and beyond. The employees at Peck Ranch are an asset to the Department of Conservation.

Terry R. Smith, Fulton

TRAPPING BOBCATS

I am just now reading the January issue of the *Conservationist*. I have been curious about this for several years: When looking at hunting and trapping seasons, I always see the bobcat listed. I know they are a shy, elusive animal. I do see

their tracks on our north Missouri property, but their numbers must be incredibly small. And with the coyote to contend with, I think their numbers really don't need to be reduced further by hunting or trapping ["I Am Conservation"; Back Cover]. Can you tell me what the Department's philosophy is regarding this animal?

Phyllis Pryor, via Internet

Ombudsman's Note: The Missouri bobcat population is stable to slightly increasing over the past several years, despite the statewide harvest by hunters and trappers of 2,000 to 4,000 bobcats annually. Bobcats' secretive, and primarily nocturnal, habits keep them mostly out of sight. Their harvest is strictly monitored to ensure sustainability, and each animal or pelt must be registered and tagged to be possessed legally.

We do believe that trappers and

hunters are providing a service in helping to manage furbearer populations. Due to the availability of food and habitat and the lack of hunting in many urban and suburban areas, trapping plays an important role in preventing overabundant populations and associated disease issues. Conservation is the wise use of natural resources, and harvest does help to maintain a healthy balance of wildlife populations. Our philosophy is to provide opportunities for Missourians to use renewable resources as long as animal populations remain at healthy, sustainable levels. That is certainly the case currently with bobcats. —Tim Smith

THAT'S NO SYCAMORE

The sycamore tree on Page 2 of the January issue ["Reader Photo"; Busy Beaver] looks more like a cottonwood tree to my practiced, but sometimes wrong, eyes.

I appreciate the work all of you do at the Department, which has always been a leader to other states. I am a lifelong outdoorsman after spending my early years in Wayne County in the 1930s and 1940s. Wayne County is one of Missouri's jewels, and I am near publication of a general history of the area with a special focus on the area where I spent my childhood. I previously published similar histories of Butler and Stoddard counties that devote sections to wildlife and natural resources.

Robert H. Forister, Bloomfield

Ombudsman's Note: You are correct that we published an incorrect identification of the beaver-cut tree as a sycamore. I agree with you that it is most likely a cottonwood. We regret that this item slipped past our reviewers.

Wayne County is an interesting part of Missouri. For most of my career with the Department I was a botanist, and I was able to explore some beautiful parts of that county around the upper reaches of Lake Wappapello. The Cedar Bluff area of the Johnson Tract, just south of Greenville, is a wonderful spot with some uncommon Missouri plants. —Tim Smith



Reader Photo

SIGNS OF SPRING

Liz Ford of Joplin took this photo of a spring beauty flower while out on a walk with her dog. The spring beauty is Missouri's most widely distributed early spring flower, blooming as early as February. This and other tender plants that emerge in early spring provide a welcome dietary boost for many animals, from insects to birds and mammals. Ford lives on 5 acres and loves to work outside, bird watch, and hike. "I think seeing a spring beauty should trump a groundhog seeing his shadow," says Ford.



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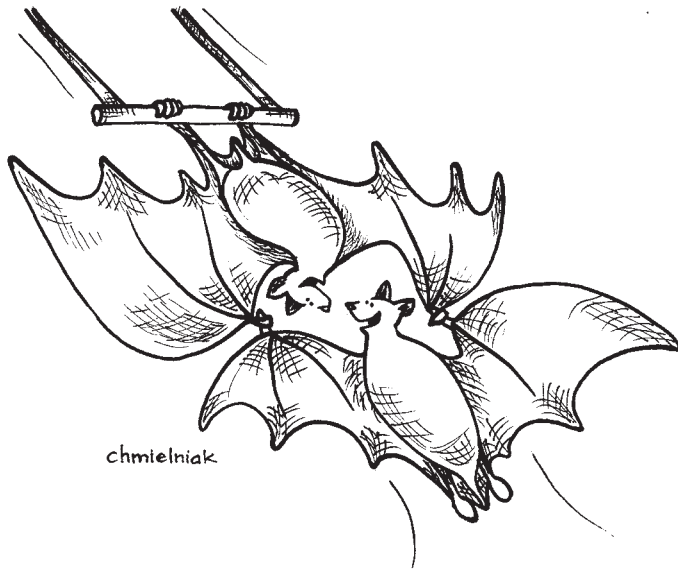
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HUNTING AND FISHING CALENDAR



Acrobats

Agent Notes

Trout Fishing Tradition

MARCH 1 MARKS the opening of the catch-and-keep trout season at Missouri's four trout parks — Roaring River State Park, Bennett Spring State Park, Montauk State Park, and Maramec Spring Park. On the morning of opening day at Roaring River, anglers line both sides of the river with poles in the air waiting for the siren to sound. The view can be magical when the sun hits all the fishing lines at once. Suddenly, with the blast of the siren, the battle begins, each person in the crowd hoping to be the first one to catch a prize trout.

I have seen many of these anglers catch a large lunker trout and enjoy seeing their name put up on the Lunker Board for all to see. I have had the privilege of witnessing four generations of a family fishing around the same hole. Many families and friends return each year to fish their favorite spots, camp in their favorite campsite, and spend time together on what they refer to as "fish-mas eve."

Whether a novice, trying to catch their very first fish, or a veteran, upholding a long-held tradition, they all have the privilege of being surrounded by the beautiful natural landscapes provided by Missouri trout parks. To learn more about trout fishing in Missouri, visit mdc.mo.gov/node/5603.

Daniel Shores is the conservation agent in Barry County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.



FISHING	OPEN	CLOSE
Black Bass from Ozark Streams	05/25/13	02/28/14
Paddlefish	03/15/14	04/30/14
Trout Parks	03/01/14	10/31/14
Nongame Fish Snagging	03/15/14	05/15/14
Paddlefish on the Mississippi River	03/15/14	05/15/14
	09/15/14	12/15/14

HUNTING	OPEN	CLOSE
Coyote	05/06/13	03/31/14
Crow	11/01/13	3/03/14
Deer		
Archery	09/15/14	11/14/14
	11/26/14	01/15/15
Firearms		
Urban Portion	10/10/14	10/13/14
Early Youth Portion	11/01/14	11/02/14
November Portion	11/15/14	11/25/14
Antlerless Portion (open areas only)	11/26/14	12/07/14
Alternative Methods Portion	12/20/14	12/30/14
Late Youth Portion	01/03/15	01/04/15

Turkey		
Archery	09/15/14	11/14/14
	11/26/14	01/15/15
Firearms		
Youth	04/12/14	04/13/14
Spring	04/21/14	05/11/14
Fall	10/01/14	10/31/14
Waterfowl	please see the <i>Waterfowl Hunting Digest</i> or see mdc.mo.gov/node/3830	

TRAPPING	OPEN	CLOSE
Beaver and Nutria	11/15/13	03/31/14

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information visit mdc.mo.gov/node/130 or permit vendors.

Operation Game Thief

Help put game thieves out of business. If you see a possible violation in progress, call your county conservation agent immediately or dial the toll-free number below:

1-800-392-1111

All information is kept in strict confidence. Desirable information includes names of violators, vehicle description and license number, as well as the violation location.

ASK
THE

Ombudsman



Q. Could you please identify the creator of the “nest” depicted in the attached photo? It was about 75 feet off the ground in a pine tree and is apparently constructed primarily of pine needles. It measures 3–5 feet in diameter.

It’s not a nest but rather a deformed growth of the tree, consisting of a dense mass of small branches originating from a single point. Called witches’ brooms, these growths occur sporadically in pines and other trees, such as hackberry, maple, willow, and spruce. Witches’ brooms can result from environmental stresses, from the activities of living organisms (such as fungi, mites, viruses, and aphids), or from genetic mutation in tissues of the tree. The dense growth of small branches in pines tends to trap the pine needles that would otherwise fall to the ground, creating a large, conspicu-

ous mass of living and dead needles. Although not constructed by animals, they can be used for shelter or nesting by such animals as flying squirrels.

Q. I am planning to apply for a fall elk hunt out west. Will my Missouri hunter-education training be accepted in another state?

Yes. Most states do accept the hunter-education training from other states. There are a couple of instances where you may get into trouble, though. When states established their hunter-ed require-

ments, they typically “grandfathered in” persons born before a certain date. In Missouri, hunters born before Jan. 1, 1967, are exempt from the hunter-ed requirement. Some other states have used an earlier date, so you may be exempt in Missouri but not exempt in another state. Another issue is bowhunter education. In Missouri, that is not required of archery hunters unless they are hunting in certain municipalities where city ordinances require it. Some western states do require bowhunter education for persons archery hunting in their states. I advise you to check the hunter-education requirements in the state where you wish to hunt well in advance of planning your trip. It could save you a lot of time and frustration later, when you’d rather be hunting.

Q. I recently saw a squirrel with most of its tail missing. What may have caused that and how will it affect the squirrel?

The tail may have been lost due to the squirrel running under a moving vehicle. It could have been lost in a confrontation with a natural predator, such as a dog, bobcat, coyote, fox, hawk, or owl. Having a tail that is easily broken can be an advantage to a squirrel if, by the tail breaking, the animal is able to escape with its life. The tail is used for balance and for social interaction with other squirrels. As long as the break does not lead to a serious infection, the squirrel will probably lead a relatively normal life.

Ombudsman Tim Smith will respond to your questions, suggestions, or complaints concerning the Conservation Department.
Address: PO Box 180, Jefferson City, 65102-0180
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Hefty Spoonbills Await Snaggers

If heaving big treble hooks all day and doing battle with man-sized fish is your idea of fun, you will love this year's paddlefish season.

From March 15 through April 30 Missouri offers some of the world's best paddlefish action. These survivors from the age of dinosaurs sport outrageously elongated snouts and grow to weights topping 130 pounds. They filter tiny plants and animals out of the water for food, making it impractical to entice them to a hook with bait or lures. Instead, anglers use stout rods and reels to jerk three-pointed hooks through the water in hopes of snagging one. This strategy works because paddlefish swim upstream in early spring in response to their spawning urge, gathering in large numbers at the upper ends of Lake of the Ozarks, Table Rock and Truman lakes, and the stretch of the Osage River below Bagnell Dam.

Missouri's paddlefish season depends on artificial propagation and stocking. It takes a paddlefish approximately seven years to grow from stocking size — 10 to 16 inches — to the legal minimum length of 34 inches at Lake of the Ozarks, at Truman and Table Rock lakes, and their tributaries. By the time a cohort of stocked paddlefish has been in the wild 11 years, their numbers dwindle, but the survivors, which can live 20 years, are tackle-testing monsters.

The Conservation Department's Blind Pony Hatchery produced bumper crops of paddlefish in 2001 and 2008. That means that a larger-than-normal number of fish weighing 50-plus pounds are out there waiting for snaggers this year. The 2008 cohort was the biggest in history, more than a quarter of a million in all. Members of this mega-cohort are just coming into their own and should provide amazing snagging action at Lake of the Ozarks, the Missouri River, Truman Lake, Table Rock Lake, and the Black River.

Missouri's paddlefish season runs March 15 through April 30.

Water temperature determines when snagging action heats up. The best time to go is when warm spring rains raise the water temperature to 50 degrees, prompting the big fish to swim upstream on their spawning run.

Paddlefish must measure at least 34 inches from the eye to the fork of the tail to be legal at Lake of the Ozarks, Truman, and Table Rock lakes. Smaller fish must be released immediately. Paddlefish reach legal size a little sooner in other Missouri waters, where the legal minimum length is 24 inches.

If you want to try paddlefish snagging but don't know how, consider enrolling in the Discover Nature-Family Paddlefish Clinic April 19 in Warsaw. Participants will learn about paddlefish biology and snagging techniques and then go out for hands-on experience. Registration begins March 1 and ends April 11. The clinic has room for only 40 participants, so register now by calling 660-530-5500.

Research Will Shape Turkey Regulations

Ongoing research in northeast Missouri is aimed at updating biologists' understanding of turkey population dynamics. The Conservation Department has traditionally relied on research to provide the information necessary to manage



the state's wild turkey population. This information has served Missouri well, providing a solid scientific basis for setting seasons and bag limits that permitted the flock to grow while providing superb hunting opportunities.

However, biological systems are dynamic, and some of the facts of life for turkeys have changed in the past several decades. For one

The Conservation Department is conducting a five-year study on wild turkeys in order to better understand population dynamics.

thing, they have occupied available habitat in every corner of the state. Following a post-restoration peak in abundance, turkey numbers have declined in many parts of Missouri. Many of the characteristics of the state's turkey population have changed as well.

To ensure that future management decisions are based on a solid understanding of turkey population dynamics in this new era, the Conservation Department is trapping and radio-tagging turkey hens and gobblers. Biologists will follow these birds to determine survival throughout the year, including during the spring and fall hunting seasons. Biologists will also note when hens begin incubating eggs, when they finish, how many eggs hatch, and how many poults survive the critical first month of life. At the end of the five-year study, the Conservation Department will use the information to determine the appropriateness of current and potential hunting regulations. Results of the research project will have important implications for the future of wild turkey management in Missouri.

(continued on Page 8)



CONSERVATION COMMISSION ACTIONS

The January Commission meeting featured presentations and discussions regarding Missouri's Comprehensive Conservation Strategy, the Table Rock Lake National Fish Habitat Initiative, and white-tailed deer management. A summary of actions taken during the Jan. 23–24 meeting for the benefit and protection of forest, fish, and wildlife, and the citizens who enjoy them includes:

- » **Approved** the exchange of three 40-acre tracts of Clubb Creek Conservation Area (CA) in Bollinger County for a 100-acre tract in Bollinger County as an addition to Castor River CA and other consideration.

The next Conservation Commission meeting is March 6 and 7. For more information, visit mdc.mo.gov/node/3430 or call your regional Conservation office (see Page 3).

(continued from Page 7)

The ultimate goal is to continue the careful stewardship of a resource that has enormous economic value and is priceless in the connections it provides with our families, our history, and the natural world.

Partners in this effort include the University of Missouri, the University of Washington, and the National Wild Turkey Federation (NWTf). Funding for the project comes from a grant from the Federal Aid in Wildlife Restoration Program and a grant from the George Clark Missouri State Chapter of the NWTf.

Missouri Hunters Check 252,000 Deer

Bowhunters checked 50,507 deer during archery deer season, bringing the total 2013–2014 deer harvest to 252,575. That number is down from

the 10-year average of 293,308.

Resource Scientist Jason Summers attributes the decline to two factors. One is increasing pressure on does in an effort to reduce deer numbers across much of central, northern, and western Missouri over the past decade. The other is losses to blue tongue and epizootic hemorrhagic diseases in 2012. A return to normal acorn production across southern Missouri also contributed to the lower deer harvest in 2013–2014. He says these factors and comments from hunters will be considered when drafting recommendations regarding 2014–2015 deer hunting regulations.

Department to Host Deer Management Meetings in 2014

A series of public meetings this summer will allow Department biologists to gather addi-



tional comments and update hunters on deer management plans. Dates for the 2014–2015 hunting season were set in December to enable hunters to plan vacation time. The Conservation Commission still has time to adjust deer

WHAT IS IT?

Great Blue Heron

Ardea herodias

Great blue herons are top predators in their aquatic environments. Other predators frequently prey upon the herons' eggs and chicks, but not many animals hunt the adults. From the tip of its bill to the tip of its tail, the great blue heron can reach lengths of up to 46 inches. Herons are found statewide and gather in large nesting colonies near water and food. Each pair of great blue herons typically lays 3–6 eggs, which are incubated for nearly a month. The chicks hatch one at a time, with the first to hatch growing more quickly than the others. They wade and forage in shallow pools, edges of lakes, and similar areas for aquatic prey, including frogs, small fish, and many other animals that can be swallowed. — photograph by Noppadol Paothong



WHITE-TAILED DEER: JIM RATHERT

DID YOU KNOW?

Conservation makes Missouri a great place to fish.

hunting regulations, but solving the current deer management challenge is not as simple as it might seem at first glance. 2013–2014 harvest figures and hunter comments indicate that deer populations differ significantly from county to county and even within some counties.

“When managing for stable populations, we know a one-size-fits-all approach doesn’t fit every situation,” says Sumners, “but we want people to know that we are hearing their concerns and are committed to finding the right balance of keeping regulations simple yet effective at meeting population management goals.”

Sumners notes that restoring deer to Missouri took 50 years of cooperation between the Conservation Department, landowners, and hunters. It wasn’t until 1995 that Missouri’s annual deer harvest topped 200,000. It took a few more years to increase doe harvest to a level needed to stabilize deer numbers in parts of Missouri where deer had grown too numerous. Maintaining stable deer numbers in the face of increasing hunter numbers, disease outbreaks, and annual harvest variations is a balancing act.

“We have seen dips and bumps in total harvest before and expect the ebb and flow will continue in the future,” says Sumners. “We reduced the availability of antlerless permits in 12 counties last year in response to hunter and production landowner surveys, public comments, and population data. In the future, we plan to enhance our data gathering and analysis techniques and work with hunters to better meet their expectations and protect the \$1 billion industry that our deer herd supports.”

New Blue Catfish Regulations

To improve blue catfish populations in Lake of the Ozarks, Truman Lake, and their tributaries, three new regulations apply to these waters. Blue catfish 26 to 34 inches long must be returned to the water unharmed immediately after being caught. An angler’s daily limit may not contain more than two blue catfish longer than 34 inches. The daily and possession limit for blue catfish on these waters will be 10.

Refer to the *Wildlife Code of Missouri* or the *Missouri Code of State Regulations* for complete rules at sos.mo.gov/adrules/csr/current/3csr/3csr.asp.

Trout Fishing

» **Where to go:** Find great trout fishing around the state and throughout the year at mdc.mo.gov/node/5603.

» **Trout seasons:** The summer season is March 1–Oct. 31. Winter “no creel” (catch-and-release only) trout fishing is the second Friday in November through the second Monday in February.

» **Trout stocking:** The four trout parks stock approximately 30,000 trout in anticipation of nearly 10,000 anglers fishing on opening day, March 1. Attending opening day at the trout parks with friends and family is a tradition that dates as far back as the late 1920s.

» **Trout hatcheries:** The Conservation Department operates five trout hatcheries: Shepherd of the Hills hatchery near Branson, Montauk hatchery near Salem, Roaring River hatchery near Cassville, Bennett Spring hatchery near Lebanon, and Maramec Spring hatchery near St. James. These hatcheries produce and stock an average of 1.5 million 12-inch fish annually for suitable trout waters of the state.

» **Required permits:** Anglers need a fishing permit, unless exempt, as well as a daily trout tag. The daily trout tag is \$3 for adults and \$2 for those 15 and younger.

» **Want to catch more trout?** Alter your methods as the seasons and local conditions change. Learn more at mdc.mo.gov/node/5596.

» **Protect our trout:** To prevent the spread of didymo, an invasive alga, the use of shoes, boots, or waders with porous soles of felt, or matted or woven fibrous material, is prohibited at all trout parks, trout streams, Lake Taneycomo, and buffer areas.

» **Partnerships at work:** The Missouri Department of Natural Resources owns and operates (through the state park system) three of the four trout parks. Maramec Spring Park is privately owned and operated by The James Foundation. The Conservation Department operates trout hatcheries and stocks trout in all of these locations.



Rainbow trout

MISSOURI TROUT FISH



A close-up photograph of a person's hands holding a brown trout. The person is wearing a red long-sleeved shirt and dark pants. The fish is held horizontally, showing its brown and yellow mottled pattern. The background is slightly blurred, showing more of the person's clothing and the water.

FISHING - IT'S EASY TO GET HOOKED

BY WES SWEE AND TOM WHELAN
PHOTOGRAPHS BY DAVID STONNER

**Our state has all the
fish, locations, and
excitement you need for
your angling adventure.**



North Fork of the White River

IF YOU HAVE NEVER FISHED FOR TROUT, MISSOURI might not be the first place that comes to mind when someone mentions the sport. Many people visualize a mountain stream with someone fly fishing in the morning mist. Well, Missouri may not have the mountain streams, but the rest is a spot-on description.

Stocking trout is one of the oldest conservation efforts in Missouri. The trout program began in 1878 when the Missouri Fish Commission purchased eggs from the United States Fish Commission. Once the eggs hatched, the fry were stocked in our streams. A variety of species were stocked in many different waters until 1937 when the Missouri Department of Conservation was established. At that time, trout stocking was restricted to cold

streams in three state parks and five other trout management areas open to public fishing.

Missouri's current trout program consists of four trout parks, nine Blue Ribbon trout management areas, three Red Ribbon trout management areas, nine White Ribbon trout management areas, Lake Taneycomo, and 28 Winter Trout Fishing Areas. For more information on all Missouri trout fishing locations go to [mdc.mo.gov/](http://mdc.mo.gov/node/5603)

[node/5603](http://mdc.mo.gov/node/5603). The trout program has inspired a tradition for many anglers that accounts for about 15 percent of all angling statewide. That is pretty remarkable considering that only 1 percent of the entire stream habitat in the state is suitable for trout. To keep the trout program thriving, the Department of Conservation operates five trout hatcheries: Shepherd of the Hills, Bennett Spring, Montauk, Roaring River, and Maramec Spring, which produce 1.4 to 1.5 million catchable-size trout annually for stocking in these waters.

A Good Place to Start

Trout parks are a great place for beginners to be introduced to trout fishing. Families have fished the trout parks for several generations (up to five) with certain individuals who have been angling at a particu-



Montauk State Park

lar park for more than 50 years. The four trout parks are managed with the intent of improving angling success. Bennett Spring, Montauk, and Roaring River are state parks that are operated by the Missouri Department of Natural Resources. Maramec Spring is operated by The James Foundation, a not-for-profit,

private organization. The Missouri Department of Conservation has teamed up with the Department of Natural Resources and The James Foundation to manage the fisheries within the trout parks. These pleasant settings offer even the novice angler a good chance to catch a trout with minimal equipment.

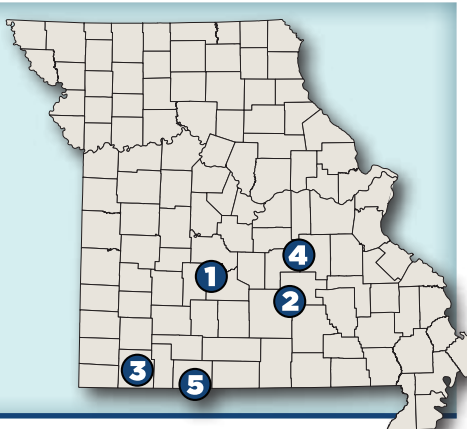
The Missouri trout program is designed to provide all types of angling experiences, from the quiet, remote stream to one of our popular trout parks.

The hatcheries located at each of the parks stock fish every night during the trout season (March 1 to Oct. 31) to increase the odds of a successful fishing experience. The fish are stocked at an average size of 12 inches and at a rate of 2.0–2.25 fish per anticipated angler. The parks provide a variety of fishing experiences with stream segments managed for fly-fishing only, bait-fishing only, catch-and-release fishing only, and areas open to fishing with all legal methods.

Before fishing at a particular park, be sure to familiarize yourself with

Missouri's trout hatcheries are located at each of Missouri's four trout parks and on Lake Taneycomo. They provide high-quality trout fishing on cold-water streams in Missouri.

- 1—Bennett Spring State Park
- 2—Montauk State Park
- 3—Roaring River State Park
- 4—Maramec Spring
- 5—Shepherd of the Hills (Lake Taneycomo)



the regulations for that park. Fishing at a trout park is a social activity, and on busy days (such as March 1 and weekends) it can be shoulder to shoulder along a popular fishing hole. Usually the best fishing spots will have others nearby, and catching someone else's line is not uncommon. A simple apology and courtesy go a long way in these situations. Many anglers use the trout parks to hone their fishing skills before moving on to more challenging methods such as fly fishing or fishing on one of our Blue Ribbon or Wild Trout Management areas.

Gearing Up and Fishing Methods

Some people think trout fishing involves a huge investment in equipment and that fly fishing is the only method to use. That's just not the case. Beginning anglers only need a few modestly priced items to get started.

The purchase of an ultra-light rod and reel combo, a small tackle box with a modest assortment of small hooks, sinkers, and floats, a stringer, dip net, a pair of hemostats, and your choice of natural or artificial bait will get you started. Some anglers prefer a vest over a tackle box. The vest acts as a trout angler's hands-free tackle box. Most of them come with enough pockets for all the fishing gear one would need on the stream. All of the trout parks have areas that can be fished from the bank, so waders are not



Trout are sight feeders and are very picky, so hooks, bobbers, line, and sinkers must be small and light to avoid detection.

necessary, but they allow the angler to enter the water and access more areas of the stream. To get the full trout fishing experience, a pair of nonporous-soled waders and vest will make you feel right at home with seasoned trout anglers.

The fishing tackle used to catch trout is very similar to fishing for bluegill and crappie except everything is scaled down in size. Trout are sight feeders and are very picky, so the hooks, bobbers, line, and sinkers are reduced to avoid detection. The most common mistake a novice trout angler will make is the fishing line. Missouri spring water is normally crystal clear, and the trout are spooked if they can see the line, so we recommend 2- to 4-pound-test line. The light line is also the reason for using a net to land the fish. Lifting the trout out of the water without a net will usually break the



line. Caution — do not attempt to lip a trout like a bass or catfish in lieu of a net, they have sharp teeth!

The last few feet of landing a fish is also a common time for the line to snap. With the adrenaline rush and excitement of catching your first rainbow, it's hard to remember to be patient and slowly net the fish when it wears out. Often, as the angler is trying to land the trout, it will make one last attempt to free itself by rolling, jumping, and thrashing, so make sure that your drag is set lightly. Let it make a couple runs, and enjoy the fight. Eventually you will have your payoff on the end of a stringer. Every trout angler in the park probably has a different special technique that they have cultivated over the years. It may be a special bait, line size, hooks, jigging action,

Missouri's Trout



Brown Trout



Rainbow Trout



or rod and reel combination, but basically they all boil down to a handful of methods.

Tight lining or bottom fishing in slow-moving, shallow water is one of four simple but effective methods for first-time trout anglers. Some anglers also like to use polarized glasses to help spot trout in slow-moving water. Dough bait, salmon eggs, rubber worms, and grubs are some of the more common baits used when tight lining. Using a small treble hook, place a split shot 12 to 24 inches above the hook; pinch the dough bait around the hook to form a ball about the size of a baby marshmallow (which is also good bait). Cast your line upstream from the fish and let the bait settle and slowly drift along the bottom. Reel up the slack

Missouri has a thriving trout program — about 15 percent of all angling statewide is for trout. Although only 1 percent of the entire stream habitat in the state is suitable for trout.

in your line and wait for a strike. Periodically check your bait and re-bait as needed. Trout are very finicky so if you feel a slight tug, or your line makes any sudden movement, you have a strike. Use a quick jerk to set the hook. The timing takes some getting used to because trout will quickly spit out the bait if they are not interested. Don't get discouraged if you miss a few, even the regulars who fish the park day in and day out have days where they leave empty handed. There are many different bait sizes, colors, depths, and rigging combina-

Help Stop Didymo

Didymo, or "rock snot," algae quickly blanket cold-water streams, reducing habitat for aquatic organisms and degrading water quality. Although didymo is thought to be native to North America, it is expanding its ecological range and tolerance throughout the world. Currently didymo exists in 19 states and occurs as close as northern Arkansas. Humans are believed to be the primary vector for spreading didymo. Anglers can unknowingly spread these microscopic algae on fishing gear, waders, and especially in any porous materials on wader soles.

Please remember to check, clean, and dry your fishing gear and waders when moving between waters.

Check Remove all visible clumps of algae and plant material from fishing gear, waders, water shoes and sandals, canoes and kayaks, and anything else that has been in the water.

Clean Clean your gear in a 2-percent household bleach solution ($\frac{1}{3}$ cup per gallon of water), 5-percent saltwater solution (1 cup per gallon of water), or dishwashing detergent. Scrub boats and other "hard" items thoroughly. Completely soak equipment, felt-soled waders, personal flotation devices, and other "soft" material for at least 20 minutes.

Dry Allow any item that has been in contact with the water to completely dry; the item should be exposed to sunlight and left to dry for at least 48 hours.

To keep didymo at bay, in 2012 the Department banned porous-soled waders at all four trout parks and in certain trout streams (visit mdc.mo.gov/node/16930 for specific locations). All stretches of those streams — not just portions managed by the Conservation Department — fall under this rule.



tions that can be used. Finding the combination that catches a fish is the real challenge of fishing.

Drift fishing is a common fly-fishing method used to catch trout, but it can be adapted to basic fishing equipment. The concept is that you want your bait to flow with the water current without any restrictions. Trout are very efficient, and they try to expend very little energy while feeding. They will position themselves in such a way that food floats within a few inches of their mouth. The stream will provide them with an unlimited buffet of food choices; your job is to convince them your bait is the best on the menu. When done correctly, you can cover a lot of area and present your bait to several feeding trout. Cast your bait upstream and allow the bait to drift freely in the water current. Depending on water conditions, you may need to add weight to keep your bait

Find great trout fishing around the state and throughout the year at mdc.mo.gov/node/5603.

lower in the water column. When you begin to feel tension on the line downstream, it is time to recast and try again.

Float fishing is similar to drift fishing except you are using a float or bobber. A small slender float seems to work the best. Adjust the float according to depth of the water or where the trout are. Watch the float and set the hook when the float makes a sudden movement.

Jig fishing is for the angler who wants a more active role in the fishing method. Instead of waiting for the trout to take the bait, you add a little action to the lure to entice the fish to strike. During the retrieve, the lure is jigged by bouncing the rod tip up and down. It may look and feel silly shaking the rod vigorously on the retrieve, but it works. Reel speed is also a variable, so experiment with speed and pauses. Eventually you find the right speed and jig action that trout can't resist. Trout prefer very small jigs ($\frac{1}{16}$ ounce to $\frac{1}{25}$ ounce), so light line and an ultra-light rod are a must for jigging. You will only be able to

cast a short distance if you don't have the right jig weight and rod combination. Popular jig colors change with water clarity, but olive, white, yellow, and black are usually effective. Again, set the hook quickly when you feel a strike. For more information on fishing techniques, visit our Trout Fishing page at mdc.mo.gov/node/5596.

Trout parks are only the beginning for Missouri trout fishing opportunities. The Department of Conservation's winter trout stocking program supports our 28 Winter Trout Fishing Areas and is another great opportunity to get your feet wet when a trip out to the park is not an option. These fish are hatchery stock and are a little easier to catch compared with the state's wild trout. However, people usually catch on quickly to which fishing techniques best fill a stringer, and then they want more of a challenge. The Blue, Red, and White Ribbon trout areas offer this challenge. They are stocked less often, if at all. Some of the state's Blue Ribbon areas even have self-sustaining or wild populations of trout. Lures allowed in these areas are restricted to help protect these populations. Be sure and check the local regulations and the 2014 *Summary of Missouri Fishing Regulations*, also available online, at mdc.mo.gov/node/3104 for more information on trout fishing areas. The Missouri trout program is designed to provide all types of angling experiences and to spread the harvest of trout as much as possible. ▲

Wesley Swee has been with the Department of Conservation for 10 years and is currently the Maramec Spring hatchery manager. Tom Whelan has been with the Department for 28 years and is currently the manager of Montauk Hatchery. He has also worked at Shepherd of the Hills, Roaring River, and Chesapeake hatcheries.





Are you ready for
spring turkey season?
Try this pre-season plan.

TURKEY TRYOUTS

BY JAKE HINDMAN | PHOTOGRAPHS BY DAVID STONNER

As a youngster, it seemed spring turkey season couldn't come soon enough. I would listen for gobbling often, spend plenty of time in the timber, and would thoroughly check my gear while counting down the days to the season opener. Now, with a busy career and family life, turkey season sneaks up on me far too quickly. To make efficient use of my time before season and make my turkey hunting time afield more productive, I use the following pre-season plan as "tryouts" for the real season that's to come. Read along for a step-by-step guide to spring turkey season preparation.

TURKEY: NOPPADOL PAOTHONG

SCOUT FOR SUCCESS

If you want to harvest a turkey, locating a piece of property that has a good population of birds is crucial. If you intend to set out on private land, make sure you gain permission well before the season opener — the earlier the better. Considering the regular spring season opens on the third Monday in April, it is not a stretch to start locating properties to hunt in January or February. Don't discredit public property either. Missouri is a great place to turkey hunt, and the Missouri Department of Conservation owns and manages more than 400 conservation areas that allow turkey hunting. Regardless of where you plan to hunt, make sure you have reviewed the area regulations and/or gained permission in advance, and follow any requests the landowner may have.

Once you have located property to hunt, your next job is to find wild turkeys. Obtain an aerial photo of the property you will be hunting and study the habitat features. Grab your boots and take a walk on the area as well.

» LOOK

Become familiar with boundary lines and where turkey hangout locations may be. While doing your pre-season homework, locate any creeks, fences, or other obstacles that may hinder a gobbler from coming to your setup and make a mental note of where these are located. During on-the-ground scouting trips, watch for wild turkey signs, including droppings (j-shaped for gobblers and popcorn-shaped for hens), scratchings, dusting areas, turkey feathers, and roosting areas.

» LISTEN

As spring progresses and flocks begin to break up, toms will routinely gobble at dawn. Start listening for gobblers around the middle of March and, if possible, listen once a week on the property you intend to hunt. Pick an unobtrusive area on the property for listening and arrive at least 30 minutes before sunrise. Listen on clear, windless mornings, if possible. Keep a log of the number of birds you hear and where they are located. Use a locator call (owl, crow, or hawk work well) to solicit gobblers if needed; however, avoid using turkey calls before season opens.

» LOCATE

Note not only where turkeys are roosting, but also where they land after flying down. Try to observe where the birds frequent throughout the morning. By doing so, you will have a plan in place for midmorning hunts if your first setup doesn't pan out. Mapping out the habits of as many birds as possible will give you options, thus increasing your chance for success.



TEST YOUR EQUIPMENT

If a safe, legal, and ethical shot opportunity at a gobbler arises, you will need the appropriate equipment to cleanly harvest the bird. If you plan to use a shotgun, a patterning session to test your gun, choke, and shell combination is in order. A trip to the range



before season is all it takes to complete this task (see Proper Patterning). During shotgun patterning sessions, you are not only checking for point of impact (the gun shoots where you aim) but also pattern testing to determine the number of pellets present in your pattern. You will need adequate pellet density in your pattern (at least 230 inside a 30-inch circle) as well as the appropriately-sized pellet to effectively harvest a turkey. Missouri regulations allow for No. 4 size shot or smaller; generally hunters avoid shot smaller than No. 6. Range time is also needed if you will be hunting with archery

Proper Patterning

» **STAY SAFE** Keep safety in mind; make sure the muzzle of your firearm is pointed in a safe direction at all times and wear eye and ear protection.

» **LOCATE A RANGE** Consider patterning your shotgun at a Missouri Department of Conservation range, visit mdc.mo.gov/node/6209 for more information. After locating a range, ensure you have an adequate and safe backstop to shoot at and place a 4-foot by 4-foot piece of paper on a target holder. Place a turkey head target in the center of the paper for an aiming point (download one at mdc.mo.gov/node/4098).

» **CHOOSE YOUR DISTANCE** After placing your target, back up to your desired distance. The distance you should shoot at a turkey depends on your shooting skill and the limitations of your ammunition. Smaller shot sizes may have a large shot charge, but do not carry as much kinetic energy as larger pellets. Larger pellets carry more energy, but due to the size, have a smaller shot charge in the shell. At a maximum, shots should be restricted to 40 yards or less.

» **TEST YOUR AMMUNITION** Remove three shotshells from your box of ammunition, load one, and set the other two aside. Aim at the wattles on the turkey head target and take one shot. Retrieve your target, put up a new piece of 4-foot by 4-foot paper and a new turkey head target in the center. Repeat this process using the other two shotshells.

» **EVALUATE YOUR PATTERN** Determine the richest portion of the pattern on the paper and draw a 30-inch circle around the shot pattern (a pencil with a 15-inch piece of string works well). If the richest portion of the pattern is not located near the wattles of the turkey head target, verify the aiming point of your shotgun by conducting point of impact testing using a shooting bench. Count the number of pellet holes inside the 30-inch circle on each piece of paper, add them together, and divide by three. To lethally harvest a turkey you will need a minimum of 230 pellets inside a 30-inch circle. These 230 pellets must also contain enough energy at the distance you are shooting.

» **MAKE CHANGES** If needed, make changes to your choke, distance, or ammunition to ensure that the recommended minimums to cleanly harvest a turkey are met.

» **REPEAT THE PROCESS** Pattern your shotgun if you change firearms, chokes, distance from the target, or ammunition (shell length, shot charge, powder charge, etc.). Keep a detailed logbook of patterning sessions and results for future reference.

equipment. In particular, be certain of vital archery shots and routinely practice in realistic hunting situations.

The key is to only take shots that are within the effective range of your equipment and skills. To ensure you are taking appropriate shots, learn how to subtend (see Practice Subtending on Page 22). As hunters, we have legal and ethical expectations to abide by. Properly testing equipment will maximize harvest opportunities and will reduce the likelihood of wounding a bird.

Practice Subtending

Subtending enables hunters to accurately judge how far away a turkey is by the size of its head or body relative to an object on their hunting equipment (shotgun bead, barrel, receiver, bow sight, etc.). This is very effective for turkey hunting, and it can ensure shots are taken at gobblers within your effective range, thus reducing wounding loss of turkeys.

SUBTENDING STEPS

1. Compare your gun or bow to a life-size turkey (most decoys work well) at your effective range. Draw a picture of the amount that is covered up.
2. Draw a picture of the amount that is covered up outside of your effective range.
3. Practice and get a mental picture of the difference.
4. When hunting, use the same comparison you used before season, positively identify a legal turkey that is within range of your equipment, and ensure the shot is safe.



SUBTENDING ILLUSTRATION: LES FORTENBERRY

BRUSH UP ON CALLING

The communication between a hunter and a love-sick spring gobbler is why many people turkey hunt. To increase your odds of calling in a bird, spend time before season imitating the calls of a hen. If you are new to turkey calling, attend a turkey-calling seminar, or go online for recordings of turkey vocalizations. Start simple by using a box or push-button call.

If your calling skills don't match those of a competitive turkey caller, don't fret. Real hens often have varied tones and, just like humans, each has a unique voice. More importantly, learn the rhythm of specific calls, what each call means, and how to apply the wild turkey language in different hunting situations. Become proficient with a variety of calls including friction and air blown. Keep your calls working well by completing necessary maintenance (chalking, sanding, etc.). At minimum, learn to reproduce the yelp and cluck of a hen with consistency.



REVIEW THE REGULATIONS

As with any type of hunting, it is important to understand the regulations associated with the species you intend to harvest. Before heading afield, make absolutely certain you can distinguish between a gobbler and a hen turkey, as only male turkeys or turkeys with a visible beard are legal in the spring. In addition, be familiar with the tagging procedures after you harvest a bird. Pick up a current copy of the *Spring Turkey Hunting Regulations and Information* booklet at your local Missouri Department of Conservation office or other permit vendor and read through it. You can also access spring turkey season regulations online by visiting mdc.mo.gov/node/132. Contact your local conservation agent if you have any questions.



GATHER YOUR GEAR

Opening morning is an inconvenient time to find you have forgotten to pack your camouflage gloves and facemask. To prepare for the season, scratch out some time to get your gear in order. While you don't need everything in the latest turkey hunting catalog to harvest a bird, some equipment is necessary.

I find that doing a mental walk-through of a typical hunt helps remind me of the items that I need to pack. While gathering your gear, make sure everything is working properly and you know where to locate items when you need them. From a safety standpoint, make certain you avoid wearing any red, white, black, or blue colors while hunting, as these colors may be confused by another hunter as a turkey. As your turkey hunting experience and time afield increases, your gear and equipment will no doubt increase as well.

This pre-season plan is simple: find birds, test your equipment, practice calling, review regulations, and grab your gear, and you will be well on your way to harvesting a gobbler. Successfully connecting with a spring turkey is no easy feat; make sure you are prepared long before the first gobble on opening day. ▲

Jake Hindman, outreach and education district supervisor in the St. Louis region, enjoys planning for spring turkey season almost as much as the hunt.



Turkey Hunting Gear Checklist

EQUIPMENT ESSENTIALS:

- » Turkey hunting permit
- » Shotgun or archery equipment (including shotshells, arrows, etc.)
- » Camouflage clothing (head to toe; facemask, gloves, etc.)
- » Orange hat or vest (wear when moving)
- » Turkey call(s)
- » Seat cushion
- » Food and drink
- » Cell phone or radio for emergency
- » First aid kit

EQUIPMENT EXTRAS:

- » Turkey hunting vest
- » Decoys, various types of turkey calls (air blown and friction)
- » Locator calls
- » Binoculars
- » Rangefinder
- » Saw/pruner
- » Turkey hunting blind
- » Rain gear
- » Orange bag to transport turkey





Missouri Streams: In Good Hands

Missouri Stream Teams celebrate 25 years of education, stewardship, and advocacy.

BY AMY MEIER

It all started in 1988, when a few forward-thinking anglers, fed up with unsightly trash disrupting their fishing in Roubidoux Creek, banded together to clean up the mess. Around that time, leaders in stream management envisioned a program that would involve citizens in river conservation.

In 1989, inspired by ideas shared at the first Rivers and Streams Conference, the Missouri Stream Team Program was born. The Roubidoux Fly Fishers (Stream Team 1) began as a group of local anglers holding small cleanups on their favorite fishing stream. By 1990, their cleanup event attracted 300 volunteers, including Governor John Ashcroft. More than 17 tons of trash was removed from the creek in a single day. Still active today, Stream Team 1 remains passionate about the unspoiled beauty of Roubidoux Creek.

Fast-forward 25 years. The Stream Team Program boasts several thousand active Teams, with approximately 81,000 citizens participating in a variety of stream conservation activities. There is something for everyone. Since 1989, Stream Teams have been an impassioned voice for the protection of streams that Missourians rely on for clean drinking water, quality fishing, and first-class recreational opportunities.

Roubidoux Creek

DAVID STONNER

The three goals of the Stream Team Program are education, stewardship, and advocacy. Each Team puts a personal touch on achieving these goals through efforts in their own communities. The program provides supplies and technical assistance, and Stream Teams provide the rest. All that is needed to join is a sincere interest in conservation and willingness to contribute time for the betterment of Missouri's streams. Volunteers of all ages and abilities come to the program from many backgrounds with one thing in common — a love of Missouri streams. The Conservation Federation of Missouri (CFM) also sponsors the program, serving as a voice for citizen efforts in stream conservation.

Stewardship

Teams are resource stewards conducting many activities that benefit streams. Activities like monitoring water quality, planting streamside trees, removing invasive species, and stenciling storm drains provide lasting effects on streams. Litter pickups, however, are the most popular activity because of the instant gratification, the fact that anyone can participate, and it's fun! There is something profoundly satisfying about sore muscles, dirty clothes, and piles of trash waiting to be hauled away, not to mention the camaraderie of a good barbecue and stories shared after a hard day's work. In 2012 alone, more than 24,000 volunteers spent 136,518 hours removing more than 689 tons of trash from Missouri waterways.

Some Teams take litter personally. Armed with winches and heavy equipment, no tire is safe from "The Mighty 211" Stream Team. These dedicated volunteers have removed countless tires from Missouri streams, quite possibly in the hundreds of thousands! What drives this tire-hungry Team to scour the state for discarded rubber? Brian Waldrop, long-time Mighty 211 member and current Stream Team assistant in the St. Louis Region, offers some insight. "We have fun at it. Will you let the trash beat you, or



will you conquer the trash? It is also a competitive game against other Teams. But, when we join forces with those other Teams, we are all on the same team."

Expanding Horizons

Some ambitious Teams combine learning opportunities and stewardship, organizing large community events aimed at bringing awareness to watershed issues. For example, the Mill Creek Watershed Coalition (Team 4510) held the very first Mill Creek BioBlitz and Cleanup in Newburg last year, attracting more than 100 volunteers and the partnership of numerous agencies and nongovernmental organizations. During this one-day event

From 1989–2012, Stream Teams reported:

2,820

presentations given
to other groups

4,161

educational events
completed



9,617

tons of trash
collected

24,635

water quality
monitoring trips

259,807

trees planted

2,174,332

total hours
volunteered

14,093 storm drains stenciled



Missouri is a national leader in volunteer stream stewardship. Besides removing trash from streams, Stream Teams monitor water quality, plant trees along streams, and attend workshops on stream ecology.

dedicated to a healthy Mill Creek watershed, tires, debris, and trash were collected and nearly 500 species of flora and fauna identified. Jim Marstiller, president of the coalition, summed up the experience as “living proof that there is no end to what can be accomplished when people work together toward a common goal and no one cares who gets the credit.”

In the St. Louis area, River des Peres Watershed Coalition (Team 3745) created the annual “Bike With Your Boots On” event, which brings conservation opportunities on urban streams to cycling enthusiasts. Participants make frequent stops to test water quality while biking along one of St. Louis’ many greenways. They also host the annual River des Peres Trash Bash, which mobilizes more than 250 volunteers at more than 38 sites in the watershed. “We have been able to reach out to people from all walks of life,” said Team member Danelle Haake, “and show them that there are streams in our urban places, and that these streams are able to support wildlife that rely on streams to survive.”

Missouri River Relief (Team 1875) has adopted the entire lower Missouri River, from St. Louis to Yankton,

Stream Team members clean up around the Missouri River near Glasgow, Mo.

S.D., and continues to prove that no task is too large to conquer. With an army of volunteers and a fleet of boats, River Relief connects citizens to the river in unique ways. Not only have they removed more than 700 tons of trash from 863 miles of river since 2001, they have organized 30 educational festivals connecting more than 15,000 students and teachers to the Big Muddy. They have also taken on water quality monitoring and projects to improve river habitats.

River Relief Program Manager Steve Schnarr reflects on their successes and why there’s no slowing down for this crew. “It continues to grow because there is a need for this and people want to be involved. We try to help empower people and groups to develop their own local cleanups and activities and use our experience and connections to help them be successful. We can’t do it all, that’s for sure, but it’s important to keep it at a community scale and provide a way for people to connect to each other.”

More Than Removing Litter

Missouri is a national leader in volunteer stream stewardship efforts thanks to the creativity and determination of Stream Team members and strong agency support. While cleanups are a popular activity with volunteers, the Stream Team Program is about much more than just removing trash from streams. As the citizen movement to protect our streams picked up momentum, Stream Teams wanted to know more about the condition of their adopted waterways. In 1993, the Department of Natural Resources (DNR) became a program sponsor to kick off the Volunteer Water Quality Monitoring portion of the program, enabling citizens to col-

lect data that would provide critical information about stream conditions across the state. That first year, more than 200 volunteers were trained to collect biological, chemical, and physical monitoring data on their adopted streams. Today, nearly 6,000 citizens have attended a water quality monitoring workshop.

Water quality monitors are provided equipment to collect data that are used in a variety of ways by municipalities, agencies, and other organizations. Data collection ranges from backyard creek monitoring for educational purposes to long-term projects that support watershed management plans. Many teachers incorporate water quality monitoring as an important educational tool. Pat Brannock (Team 711) has taken Ash Grove High School students to Clear Creek in Greene County since 1997. "Students love to be outside and hands-on, and this program reinforces how important our water sources are in everyday life," said Brannock.

Bob Steiert (Team 304) has faithfully monitored water chemistry on the Little Blue River in Kansas City for the past 20 years for a different reason. "My goal was to collect 15 years of continuous monthly sampling, which is needed to show if best management practices affect water quality," Steiert said. "This is done now, but retirement allows me the luxury of extending the timeline." While Steiert chose a more intense monitoring schedule to follow, all data provided by trained volunteers is valuable.

Collaboration

By 1995, many Stream Teams began to think big, and it was clear that they needed help tackling larger challenges. Enlisting talents of nearby Teams for bigger projects led to the creation of the first Stream Team Association, Scenic Rivers Stream Team Association (Team 674). Currently, there are 21 Stream Team Associations comprised of Stream Teams that work together for the benefit of their watersheds. Association activities vary broadly and can include educational watershed festivals, watershed management plans, or community rain garden projects.

Acting as a unified council of Stream Team Associations is the Missouri Stream Team Watershed Coalition

All that is needed to join a Missouri Stream Team is a sincere interest in conservation and willingness to contribute time for the betterment of Missouri's streams.



Stream Team members conduct a mussel survey at Spring River.

(MSTWC). Founded in 1998, the watershed coalition is a not-for-profit organization made up of association representatives who strive to promote collaboration and communication, provide funding opportunities, and serve as an

advocate for stream resources on behalf of Stream Teams. Recently, The coalition partnered with researchers from the University of Missouri to tackle the daunting task of organizing 17 years of volunteer biological and chemical data into two State of Missouri's Streams reports. These reports enable the Program to share the results of volunteer monitoring efforts with the public and water quality volunteers. The coalition also assists Stream Teams with tire disposal through DNR's Scrap Tire Program using the Chuck and Sharon Tryon Revolving Tire Fund, and allows associations to use their nonprofit status to receive donations and grants.

Education

Stream Team volunteers are always hungry for a deeper understanding of stream resources that can help them to speak up for waterways and educate others. Stream Team staff look for ways to provide more technical information to Teams in a manner that is fun and hands-on. As a result, in 1997 the Stream Team Academy was established as "a university without walls" for Stream Team volunteers wanting to learn more about stream ecology and issues. The first academy workshop was Understanding Streams, a two-day watershed management course that included an educational float on a nearby stream. Since then, workshops have been added on many topics, including crayfish,



mussels, aquatic insects, scientific drawing, invasive species, and more.

Several Stream Team Associations have also jumped in to organize academy workshops, including a GIS workshop hosted by Show-Me Clean Streams (Team 523), and a Plywood Canoe Building workshop provided by Scenic Rivers Stream Team Association. Stream Team Academy workshops are open to all Stream Team members and are held throughout the state.

Forging Ahead

As we look to the future, there is no doubt that Stream Teams will continue to find new ways to care for their adopted streams and make positive changes in their communities. Recently, rain barrel and rain garden projects to reduce stormwater runoff are becoming more popular, and Teams are finding creative ways to reach their peers and elected officials using social media. Stream Teams are proof that Missourians care about clean water and know their actions can improve their quality of life, even

Members of the Missouri River Relief (Team 1875) have organized 30 educational festivals connecting more than 15,000 students and teachers to the Big Muddy.

if they have to get a little muddy along the way.

As Governor Ashcroft said at the Roubidoux cleanup in 1990, “You’ll know you’ve succeeded when tens of thousands follow in your footsteps.” The Stream Team Program is a model of a successful stream conservation program that enhances the lives of Missouri citizens. Here’s to another 25 years of citizen-led education, stewardship, and advocacy for Missouri streams!

Visit mostreamteam.org to learn more about the Missouri Stream Team Program, and “Like” Missouri Stream Teams on Facebook at facebook.com/mostreamteams. ▲

Amy K. Meier has a background in aquatic entomology and has been a Stream Team biologist with the Department’s Fisheries Division for six years. She lives in Columbia.

Green-Winged Teal

MARCH IS PRIME time for photographing waterfowl as they make their way northward across Missouri toward their breeding grounds in Canada and beyond. Bolder than usual, with hunting season in the rearview mirror, and dressed in their Sunday best, the colorful ducks of spring are more amenable to photography than ever. Last March, I was fortunate to make the acquaintance of one of these stunning vernal travelers, a drake green-winged teal, as I meandered through St. Louis' Forest Park in search of other critters.

The green-winged teal (*Anas crecca*) is a small duck with a pleasing pattern of rich colors. The drake boasts a chestnut-colored head with an ear patch of forest green, a vertical white stripe on each side of the breast, and an iridescent green patch on each wing. The female is mottled brown, but with the same green wing patches.

It was a female greenwing that first caught my eye that day in Forest Park. I almost passed her by as she loafed in a densely vegetated wetland. A closer inspection revealed a second hen, but I couldn't find a drake anywhere in sight. It was a beautiful, warm day so I decided to plop down on the ground at the edge of the wetland and observe the tiny ducks for a while. Perhaps a drake would make an appearance later on. I found a comfortable spot and draped my tripod, lens, and camera over me in the usual fashion. Soon, I drifted into a nap under the warm sun and woke a few minutes later to see a fat drake standing on a log next to one of the hens. Bingo!

As the morning progressed, several joggers and bicyclists stopped to ask me what I was photographing. I responded, with an air of nonchalance, that I was just watching a couple of ducks. Little did they know I was capturing my best-ever images of an elusive waterfowl species, but I didn't want to attract a crowd and disturb the little drake. A couple of hours into the shoot, the drake seemed to forget about my presence and proceeded with its daily routine of courting, feeding, and preening, sometimes drifting remarkably close to my position. As duck hunters often say, "I was in duck heaven."

The green-winged teal, a bit smaller than its blue-winged cousin, is equally skilled in the aerobatics arena, perhaps more so, as reported by many a frustrated wingshooter. I've included an inset photo of a typically tight formation of greenwings that I captured over the wetlands of the Department of Conservation's Marais Temps Clair Conservation Area. Note the iridescent green specula, so conspicuous in flight.

I finally pulled up from my comfortable spot in the grass and headed back to my truck. I returned a few days later to find the wetland devoid of greenwings or any other waterfowl. Only a few blackbirds sang from their favorite cattails along the lonely waterway. It wasn't lost on me how lucky I'd been a few days earlier.

—Story and photographs by Danny Brown

 (main) 500mm lens + 1.4 teleconverter • f/7.1 • 1/1000 sec • ISO 400

 (inset) 500mm lens • f/4.0 • 1/2500 sec • ISO 400

We help people discover nature through our online field guide.
Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.





Big Buffalo Creek Conservation Area

Located on the northern fringe of the Ozarks, this 1,977-acre area offers an array of adventures for the outdoor enthusiast.

ONCE A PRIVATE fish hatchery, Big Buffalo Creek Conservation Area (CA) is managed for wildlife habitat, natural communities, outdoor recreation, and healthy sustainable forests. Oak-hickory forests, open woodlands, and rocky barren glades are found on the hillsides. Mature stands of sycamore, walnut, oaks, and the occasional butternut grow in bottomland forests along Big Buffalo Creek and Pole Hollow Creek.

Big Buffalo Creek CA is known for birding opportunities and its show of springtime wildflowers. A visit in early spring promises a stunning display of flowering dogwood, serviceberry, Dutchman's breeches, and other spring ephemerals. Birders know the area as a place to observe and photograph riparian and forest-interior species and spring migrants.

A 45-acre portion of the area is designated as the Big Buffalo Creek Fen Natural Area, which features a deep muck Ozark fen. A fen is a bog-like wetland that is fed by water percolating up through muck, called peat, which is formed by decayed vegetation. This permanently saturated site harbors many unique species including interior sedge, Riddell's goldenrod, and the four-toed salamander. A trail to the fen is located approximately three-quarters of a mile south of the intersection of Highway FF and Big Buffalo Road.

The area offers hiking and horseback riding opportunities on 4.5 miles of multiple-use trails. For anglers willing to walk, Big Buffalo Lake provides good fishing opportunities. Located 1.5 miles from the campground, the 6-acre lake is stocked with sunfish, bass, and channel catfish. Big



24–70mm lens • f/6.3 • 1/320 sec • ISO 400 | by David Stonner

Buffalo Creek CA is also a popular destination for hunters, and the area supports good populations of deer, turkey, and squirrel.

The campground provides an opportunity for primitive camping (no water, electricity, or restrooms). Located near the area's southern boundary on Big Buffalo Road, the campground has 10 graveled camping pads and a large grassy area for tent camping.

To reach Big Buffalo Creek CA, travel west from Stover on Highway 52, turn left onto Highway FF, and travel south for nearly 8 miles. At the intersection with Big Buffalo Road, turn right and go approximately 0.3 miles to the north entrance of the area.

—Jake Willard, area manager



Recreation opportunities: bird watching, fishing, hunting in season, nature viewing, primitive camping, hiking, horseback riding, and wildlife viewing

Unique features: This area features oak and hickory forests, bottomland hardwood forests, woodland-glade complexes, and a deep muck fen.

For More Information Call 660-530-5500 or visit mdc.mo.gov/a6315.

DISCOVER nature



IDEAS
FOR
FAMILY
FUN

To find more events near you, call your regional office (see Page 3), or visit mdc.mo.gov and choose your region.

NATURESCAPING WORKSHOP

MARCH 15 • SATURDAY • 8 A.M.–1 P.M.

*Kansas City Region, Burr Oak Woods
Nature Center, 1401 NW Park Rd.,
Blue Springs, MO 64015
Registration required, call 816-655-6263
Ages 18 and older*

Learn how to save time and money and create wildlife habitat with educational sessions on shade-loving plants, butterfly gardening, stepping stones, wild edibles, treescaping, and more.

PRIMITIVE SKILLS

MARCH 15 • SATURDAY • 1–4 P.M.

*Southeast Region, Cape Girardeau
Conservation Campus Nature Center, 2289
County Park Dr., Cape Girardeau, MO 63701
No registration
Ages 8 and older*

Did you know that cordless drills existed thousands of years ago? Try your hand at historic pump drills, working cordage, making tools from cane, and more of these primitive yet ingenious skills.

OUTDOOR EXPLORER: ARCHERY

MARCH 18 • TUESDAY • 10 A.M.–3 P.M.

*St. Louis Region, Forest Park,
5595 Grand Dr., St. Louis, MO 63112
Registration required, call 314-877-1309
Ages 9 to 13*

Learn how mammal identification and tracking are essential to archers. Practice with bow and arrow, and then take the archery skills challenge. This program meets at the Forest Park Hatchery.

LEARNING ABOUT MANAGING YOUR LAND: TURKEYS AND TREES

MARCH 19 • WEDNESDAY • 5:30–7:30 P.M.

*Northeast Region, Various locations
Registration required, call Ted Seiler
at 660-385-2616, ext. 118, or email
ted.seiler@mdc.mo.gov
Ages 18 and older*

Learn how to manage turkeys on private land and how to harvest trees from your woodland in a sustainable fashion. Workshops will be held in the field at appropriate sites.

NIGHT HIKE

MARCH 22 • SATURDAY • 6–9 P.M.

*Ozark Region, Twin Pines Conservation
Education Center, Route 1,
Box 1998, Winona, MO 65588
Registration required, call 573-325-1381
All ages*

A hike for "night owls." Our staff will introduce you to a variety of wildlife and help you learn more about "nature's night shift."

HUNTER EDUCATION SKILLS SESSION

MARCH 24 • MONDAY • 5:30–9:30 P.M.

*Central Region, North Jefferson City
Recreation Area, Cedar City Room,
1101 Third St., Jefferson City, MO
Registration required, no later than March 17,
online at register-ed.com/events/view/41281
Ages 11 and older*

The Missouri Hunter Education Skills Session is the second half of the hunter education certification process after completing one of the knowledge-based options. Students should first visit mdc.mo.gov/node/3722 to learn more about preparing for this session.

INTRODUCTION TO MISSOURI RAPTORS

MARCH 25 • TUESDAY • 7–8 P.M.

*Southwest Region, Springfield Conservation
Nature Center, 4601 S. Nature Center
Way, Springfield, MO 65804
Registration required, call 417-888-
4237 beginning March 1
Ages 8 and older*

Raptors, also known as birds of prey, are a fascinating group of birds that are adapted to eating meat. Learn life history information and identification tips for these majestic birds.

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Show the world your idea of discovering nature in Missouri. Using your Google+, Instagram, or Twitter account, tag your Missouri nature photos with "#MDCdiscovernature." Your photos will appear on our website at mdc.mo.gov/node/26255, where you can also read the contest rules. Every month, Department staff will select and post a winning photo. We'll publish all of the monthly winners in the January 2015 issue of the *Conservationist*.



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I Am Conservation

Delores and Lester Swoboda were founding members of Stream Team 3 on the Bourbeuse River in 1989, but they were cleaning the Bourbeuse long before then. The couple has been looking after the river since 1970, when they married and moved to the family farm on the Bourbeuse. "We figured, if we didn't clean up the river and take care of it, no one else would," says Delores. The river is important to the Swobodas. "I was born and raised around here," says Lester. "I've spent my entire life within three miles of the Bourbeuse." The Swobodas have floated lots of rivers throughout Missouri and Arkansas and beyond, but "none of those other rivers have anything that we don't have," says Lester. Stream Team 3 holds a large event every year as part of Operation Clean Stream, where around 300 volunteers break up into small teams to clean all 109 miles of the Bourbeuse. The Swobodas love the outdoors. They operate the only canoe outfitter on the river. They have also deer hunted together since they were married and enjoy camping and fishing. Delores sees hope for the future. "The trash we are getting off the river now is not 'user trash' from people that are actually using the river," she says. "Now what we are seeing is the stuff that gets flushed out after a flood or heavy downpour. So, I think that means we are making progress in teaching our young people that they should take care of the river and not throw their trash in the stream." —*photograph by Noppadol Paothong*